

Auroras.—The principal auroras were those recorded on the 3d, in New York and Pennsylvania; on the 6th, in Vermont, Massachusetts, New Hampshire and Connecticut; on the 1st, 7th, 8th and 10th, in New York; on the 2d, in Michigan; on the 4th, in New York and Iowa; on the 24th, in Wisconsin and Iowa; on the 27th, in Iowa; on the 17th, in Vermont; on the 20th, in Ohio and Pennsylvania; on the 30th, in New York and Wisconsin.

OPTICAL PHENOMENA.

(1) *Solar Halos* were less frequently observed than usual. The chief phenomena of the kind reported were as follows: on the 3d, in Kentucky; 4th, in Iowa, Nevada and New Hampshire; 5th, in Maryland, Massachusetts, New Hampshire, New York and Rhode Island; 6th, in Illinois, Massachusetts, New York and Vermont; 7th, in Iowa, Nebraska and New York; 8th, in Maryland, New York and Vermont; 9th, in Massachusetts, New Hampshire and Vermont; 10th, in New York and Pennsylvania; 11th, in New York; 13th, in Illinois; 14th, in Kansas and New York; 16th, in Tennessee; 17th, in Iowa, Kansas, New Hampshire, New York and Tennessee; 19th, in New Hampshire and Virginia; 20th, in Nevada and Ohio; 22d, in Illinois; 23d, in New York; 24th, in New Hampshire and New York; 25th, in Kansas; 30th, in Illinois.

The solar halos of the 5th were very extensively observed, and reported as quite brilliant.

(2) *Lunar Halos* were also very few in number. The principal were as follows: the 5th, Massachusetts; 7th, Colorado; 8th and 9th, New York; 11th, South Carolina; 12th, Iowa; 14th, Ohio; 15th, Pennsylvania; 17th, Ohio and Virginia.

(3) *Mirage*.—Only one mirage was noted. This was on the 7th and 19th, at Ellinwood, Kansas.

(4) A *Lunar Rainbow* was reported at Clarksville, Texas, on the 19th., and also at Buffalo, on the 24th.

MISCELLANEOUS PHENOMENA.

(1) *Natural History*.—Under this head, the following items are of note:

Grasshoppers.—At Denver, Colorado, about the middle of June, grasshoppers were reported leaving in all directions. At Leavenworth, on the 11th, they were reported flying north and northwest, and were all gone by the 13th. Grasshoppers left Iowa on the 18th. In Kansas, they were seen going northeast on the 3d, and northwest on the 12th. In Nebraska, going north from the 10th to the 17th. Millions are reported drowned by the heavy rains in the Missouri valley. Grasshoppers were very bad in New Mexico, where distressing drought also prevailed.

Locusts.—At Plattsmouth, Neb., immense swarms of locusts moved north, northeast, and northwest, from the 13th to the end of the month. The river-observer there says: "Vast quantities of locusts were seen flying over from the 15th to the 25th of June, inclusive, except the 19th, 20th and 21st. The line was from 100 to 150 miles in width and from one-quarter to one-half mile in depth. As only a few descended, no serious damage resulted." They seem to have floated along in the prevailing wind. Locusts were at Ellinwood, Kan., on the 17th.

The Colorado Beetle or Potato Bug was in large quantities in Waupaca and Waushara counties, Wis., during the month, and in Hunterdon county, N. J. It was also reported in New York.

(2) *Forest Fires*.—In Dutchess county, N. Y., on the 19th; near Denver on the 18th, 24th and 25th; in St. Lawrence county, N. Y., from the 13th to 21st.

(3) *Polar Bands* at Buffalo on the 3d and 4th.

(4) *Meteors* at Albany, on the 24th; at Shreveport on the 4th and 21st; on the 21st at Lyndon, Ill.; also near Detroit, one was observed; on the 23d and 30th at New York city; brilliant one on the 24th at Trenton, N. J.; and on the 28th at Weidon, N. C.